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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,064	03/10/2004	Gordon Shearer	248424US3	2692

22850 7590 08/03/2006

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EXAMINER

DONDERO, WILLIAM E

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,064	SHEARER ET AL.	
	Examiner	Art Unit	
	William E. Dondero	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-16 is/are rejected.
- 7) ☒ Claim(s) 1 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 4, 2006 has been entered.

Claim Objections

Claim 1 is objected to because of the following informalities: - -a- - should be inserted between "at" and "right" in line 12. Appropriate correction is required.

Claim 13 is objected to because of the following informalities: - -a- - should be inserted between "at" and "right" in lines 10-11 and the "Θ" should be deleted from line 14. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 1, 3, 5, 6-15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 13, the phrase "tape-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "-like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding Claims 1 and 13, the limitation, "a tape face is parallel to the bobbin axis" (Claim 1: Lines 12-13; Claim 13: Line 11) renders the claim indefinite because it is unclear at what location(s) the tape face is parallel to the bobbin face.

Regarding Claim 13, the limitation, "a tape face is parallel to the bobbin axis" renders the claim indefinite because it is unclear at what location(s) the tape face is parallel to the bobbin face.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsunekawa. In Figure 3 Tsunekawa discloses a guide apparatus for guiding an advancing continuous fiber bundle used when winding the bundle on a bobbin 28 comprising a first guide 45 and a second guide 44, each of said guides being disposed on a passage on which the fiber bundle is advanced, wherein the axis lines of the guides are twisted away from each other in a space; a parallel guide 47, which is disposed at a downstream side of the pair of guides on the passage, through which the fiber bundle is guided to the bobbin, and which the axis line parallel to that of the bobbin 28; the first guide comprising a conical guide on which the fiber bundle is advanced in a twisted state, and which is disposed such that an oblique line with which the fiber bundle contacts first crosses at right angle to the axis line of the bobbin; and the second guide

comprising a conical guide on which the fiber bundle is advanced in a twisted state, on the parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when it is being supplied, wherein the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle is stabilized by means of the parallel guide.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri et al. Regarding Claim 1, in Figure 3 Tsunekawa discloses a guide apparatus for guiding an advancing continuous tape-like fiber bundle used when winding the bundle on a bobbin 28 comprising a first guide 45 and a second guide 44 each of said guides being disposed in a passage through which the fiber bundle is advanced, wherein the axis lines of the guides are twisted away from each other in space; a parallel guide 47 which is disposed at the downstream side of the pair of guides on the passage, through which the fiber bundle is guided to the bobbin and which has the axis line parallel to the bobbin 28; the first guide which guides the tape-like fiber bundle in a twisted state, the fiber bundle being advanced in a state that a running direction is at a right angle to a bobbin axis and a tape face (shown but not numbered) is parallel to the bobbin axis (at the parallel guide), and which has the axis

line thereof arranged so as to cross substantially at a right angle to that of the bobbin; the second guide comprising a conical guide of which the fiber bundle is advanced in a twisted state, on the parallel guide, the fiber bundle being twisted back to the same direction as the direction of the fiber bundle when being supplied; the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle are stabilized by means of the parallel guide. Tsunekawa is silent about the first guide comprising a substantially flat guide. However, Nojiri et al. discloses a flat first guide 2₁ in Figure 1A. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change Tsunekawa's conical guide to the flat guide of Nojiri et al. to allow the ends to maintain the width of the fiber bundle. Further regarding Claim 3, the figure of Tsunekawa discloses the axis line of the second guide 44 has an angle of inclination of less than 90 toward the axis line of the bobbin 28. Regarding Claim 5, Tsunekawa further discloses the guide apparatus comprises a common supporting means 41 and a traverse mechanism wherein the pair of the guides and the parallel guide are supported by means of the common supporting means so as to move in linkage, and the supporting means is reciprocally moved in the direction parallel to the axis line of the bobbin (along bar 58) by means of the traverse mechanism (guide 55) along nearly the whole length of the bobbin.

Regarding Claim 13, Tsunekawa in view of Nojiri et al. disclose a guide apparatus as discussed above in regards to Claim 1. Tsunekawa in view of Nojiri is silent about the method for winding the fiber bundle on a bobbin. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made

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to guide a tape-like continuous fiber bundle advancing on a passage and winding the fiber bundle on a bobbin by guides; dispose the first guide and second guide such that the axis lines of the respective guides are in relation twisted away from each other in a space, the guides comprising a first guide and a second guide; dispose a parallel guide at the downstream side of the pair of guides on the passage, the parallel guide having an axis line parallel to that of the bobbin; guide the tape-like fiber bundle advance in a state that a running direction is at a right angle to a bobbin axis, and a tape face is parallel to the bobbin axis and advance the fiber bundle in a twisted state, the first guide comprising a flat guide which has the axis line arranged so as to cross substantially at a right angle to the axis line of the bobbin or a conical guide which has the axis line arranged so as to cross with an angle Θ to the axis line of the bobbin; twisting back the fiber bundle advancing in a twisted state to the same direction as the direction of the fiber bundle when it is being supplied, the second guide comprising a conical guide; and winding the fiber bundle, which has been twisted back, on the bobbin wherein the position at which the fiber bundle is wound on the bobbin and the width of the fiber bundle are stabilized by means of the parallel guide because these steps would result from the use of the device of Tsunekawa in view of Nojiri et al. in its normal and expected fashion.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri et al. and further in view of Barboza. Tsunekawa in view of Nojiri et al. disclose a winding machine for winding an advancing continuous fiber bundle on a bobbin comprising a guide portion as discussed above in regards to claim 1

and a winding portion. However, Tsunekawa in view of Nojiri et al. is silent concerning a first fixed guide roller with axis line parallel to that of the bobbin, and a torque motor to drive the winding operation of the bobbin. However, Barboza's Figure 8 discloses a first fixed guide roller 80 with axis line parallel to that of bobbin 36. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the first fixed guide roll parallel to the bobbin of Barboza to the winding machine of Tsunekawa in view of Nojiri et al. to assist with guiding the bundle.

Regarding Claim 12, Tsunekawa discloses a winding machine for winding a plurality of continuous fiber bundles respectively on a plurality of bobbins (Figure 1) which comprises a guide portion comprising a plurality of guide apparatuses as discussed above in regards to Claim 1 (41) and a single flat first fixed guide roll 26. Tsunekawa is silent about the relation of the axis line of the first fixed guide roll to that of the bobbin. Barboza discloses a first fixed guide 80 with a line of axis parallel to the bobbin 36. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the axis line of the first fixed guide in Tsunekawa's winding machine parallel to that of the bobbin as in Barboza's winding machine to guide the plurality of fiber bundles smoothly.

Claim 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri et al. and further in view of Barboza as applied to claim 6 above, and further in view of Helfand. Tsunekawa in view of Nojiri et al. further in view of Barboza discloses a winding machine as discussed above in Claim 6. It is silent about the shape of the first fixed guide roll. However, Helfand discloses, in Figure 1, a

hand drum shaped guide roller. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the shape of the first fixed guide roll to hand drum to keep the material in the specified path. Further regarding Claim 8, Barboza discloses a second fixed flat guide upstream from the first fixed guide.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri et al. and further in view of Barboza and further in view of Nakai. As discussed above in regards to Claim 6, Tsunekawa in view of Nojiri et al. and further in view of Barboza discloses a winding machine with first fixed guide. It is silent on the third fixed guide between the first fixed guide and the guide apparatus and a dancer roll between the first and third fixed guide (Figure 8). Barboza discloses a flat third fixed guide roll 80 and a fixed guide roll 82 between the first and third fixed guide. Barboza is silent on the use of a dancer roll. Nakai discloses a dancer roll (column 5, lines 17-23), which controls tension through a motor based on its displacement. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add Barboza's third fixed guide roll and intermediate guide roll to the winding machine to keep the material on its intended path. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the intermediate fixed guide of Barboza to the dancer roll of Nakai to use the dancer roll displacement to control the tension of the fiber bundle.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekawa in view of Nojiri et al. as applied to claim 13 above, and further in view

of applicant's admitted prior art in the instant application. Tsunekawa in view of Nojiri et al. discloses a method of making a bobbin of continuous fiber bundle by winding an advancing continuous fiber bundle using a winding machine as discussed previously. However, Tsunekawa in view of Nojiri et al. is silent as to the use of 12,000 to 150,000 filaments used to make a carbon fiber bobbin. On page 2, line 6 of the instant application, applicant admits 3,000 to 24,000 filaments are mainly ~~used~~ employed to create a carbon fiber bobbin. Therefore it would have been obvious of one of ordinary skill in the art at the time the invention was made to use more filaments as needed for different applications.

Response to Arguments

With respect to Applicant's arguments filed April 4, 2006, starting on page 8, line 21 to page 10, line 1, Applicant argues none of the cited prior art teaches or suggests the fiber bundle being advanced in a state that a running direction is at a right angle to a bobbin axis and a tape face is parallel to the bobbin axis. Applicant's arguments, regarding Claims 1, 3, 5-15 have been fully considered but they are not persuasive. Tsunekawa discloses the tape-like continuous fiber bundle being advanced in a state that a running direction is at a right angle to a bobbin axis and a tape face is parallel to the bobbin axis at the parallel guide. Furthermore, as stated in the 35 USC 112, Second Paragraph rejection above there is no limitation as to at what location the tape face is parallel to the bobbin axis rendering the claims indefinite.

Regarding Claim 16, it is noted Applicant did not make any response to the previous rejection set forth in the Official Office Action of January 4, 2006. It is further

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noted the claim does not contain the language argued in regards to claims 1, 3, and 5-15 nor is the claim dependent from Claims 1 or 13.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William E. Dondero whose telephone number is 571-272-5590. The examiner can normally be reached on Monday through Friday 7:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wed



**WILLIAM A. RIVERA
PRIMARY EXAMINER**